

REMARKS

Reconsideration and allowance of the above-reference application are respectfully requested.

**I. STATUS OF THE CLAIMS**

None of the claims are amended herein.

In view of the above, it is respectfully submitted that claims 1-4, 15, 16, 25-28, 33-35, 47, 54, 59 and 60 are currently pending and under consideration.

**II. SPECIFICATION**

On page 2 of the Office Action, the Examiner indicates that the Abstract is objected to because it is too long. A new Abstract is substituted herein to meet the new Abstract requirements and overcome the objection to the specification.

In view of the above, it is respectfully submitted that the objection is overcome.

**III. REJECTION OF CLAIMS 16, 47, AND 54 UNDER 35 U.S.C. § 103(A) AS BEING UNPATENTABLE OVER KOSAKA, ET AL. (USP# 6,195,480) IN VIEW OF DELAVAUX, ET AL. (USP#5,608,562)**

On page 3 of the Office Action, claims 16, 47, and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kosaka et al. (USP# 6,195,480) in view of Delavaux et al. (USP# 5,608,562).

The present invention as recited in claim 16, for example, relates to a system in which the "optical receiver comprises a front-stage amplifier and a rear-stage amplifier..." and a "dispersion compensator being provided between said front-stage amplifier and said rear-stage amplifier."

Kosaka discloses an optical transmission device which reduces optical noise in an optical transmission system. In column 4, lines 1-7, Kosaka discloses that the optical transmission system includes optical transmitting units 2 including a plurality of optical transmitters 1, optical receiving units 4 including a plurality of optical receivers 3, and terminal station repeaters 5 which are connected with intermediate repeaters 6 through at least one transmission path 7.

The Examiner asserts that Kosaka discloses "a dispersion compensator (67<sub>1</sub>) between a front-stage (63<sub>1</sub>) and a rear-stage (68<sub>1</sub>) amplifier of said optical receiver."

However, Kosaka does not teach or suggest that the dispersion compensator (67<sub>1</sub>) is between the erbium doped optical fibers (63<sub>1</sub>) and (68<sub>1</sub>). Instead, Kosaka discloses the use of a dispersion compensator 67 provided between erbium doped optical fibers 63 and 68 (see Fig. 11 and column 10, lines 23-36). The dispersion compensator 67 and erbium doped optical fibers 63 and 68 are provided in the intermediate repeater 6 of the terminal station repeater 5 which is not the same as the optical receiver unit 4 of Kosaka. Thus, Kosaka fails to teach or suggest an optical receiver which comprises a front-stage amplifier and a rear-stage amplifier, and which has a dispersion compensator provided between the front-stage amplifier and the rear-stage amplifier.

Delavaux discloses an optical communication system that uses adjustable dispersion compensating fibers to compensate for dispersion in system fibers. The Examiner states that in column 4, lines 58-65, Delavaux discloses that a dispersion compensator may be disposed in the optical receiver 3.

However, it is respectfully submitted to the Examiner that the teachings of Delavaux disclosed in column 4, lines 58-65 do not suggest that a dispersion compensator can be provided in between a front-stage amplifier and a rear-stage amplifier of an optical receiver. Moreover, nothing in Delavaux teaches or suggests that the optical receiver includes a front-stage and rear-stage amplifier to allow a dispersion compensator to be provided therebetween. Indicating that "the dispersion compensation unit may be located at other points....for example, it may be connected to either the transmitter or to the receiver," as disclosed in column 4, lines 58-65 of Delavaux, does not suggest the features recited in claim 16 of the present application.

In light of the above, Kosaka and Delavaux, either alone or in combination, do not teach or suggest the features recited in claim 16 of the present application.

Similar to claim 16, claim 47 recites that an "optical receiver comprises a front-stage amplifier and a rear-stage amplifier..." and a "dispersion compensator being provided between said front-stage amplifier and said rear-stage amplifier," which distinguish over the cited prior art. Further, claim 54 recites a "dispersion compensator being provided between a front-stage amplifier and a rear-stage amplifier of said optical receiver," which distinguishes over the cited prior art.

In view of the above, it is respectfully submitted that the rejection is overcome.

**IV. REJECTION OF CLAIMS 1-4, 15, 16, 25-28, 33-35, 47, 54, 59, AND 60 UNDER 35 U.S.C. § 103(A) AS BEING UNPATENTABLE OVER KINOSHITA, ET AL. (USP# 6,496,300) IN VIEW OF DELAVAUX, ET AL. (USP# 5,608,562)**

On page 5 of the Office Action, claims 1-4, 15, 16, 25-28, 33-35, 47, 54, 59, and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinoshita et al. (USP# 6,496,300) in view of Delavaux et al. (USP# 5,608,562).

The comments above, in regard to the teachings of Delavaux, also apply here.

The present invention as recited in claim 1, for example, relates to a system in which the "optical transmitter comprises a front-stage amplifier and a rear-stage amplifier..." and a "dispersion compensator being provided between said front-stage amplifier and said rear-stage amplifier." The present invention as recited in claim 16, for example, relates to a system in which the "optical receiver comprises...a front-stage amplifier and a rear-stage amplifier..." and a "dispersion compensator being provided between said front-stage amplifier and said rear-stage amplifier."

Kinoshita discloses an optical amplifier of a wavelength-division multiplexing transmission system that includes a pre-stage optical amplifying unit and a post stage optical amplifying unit. As illustrated in Figs. 1A, 1B and 8, Kinoshita describes the optical transmission system from WEST to EAST. Moreover, as illustrated in Fig. 8 and column 13, line 28 - column 15, line 57, Kinoshita clearly describes an optical signal transmitting unit OSW1 and an optical signal receiving unit ORW1.

The Examiner states that Kinoshita discloses "a dispersion compensator ("DCM") between a front-stage (4-4) and rear-stage (4-5) amplifier of said optical transmitter" in column 14, lines 2-20, and "a dispersion compensator ("DCM") between a front-stage (6-4) and rear-stage (6-5) amplifier of said optical receiver" in column 15, lines 50-60. However, nothing in Figs. 1A, 1B, and 8 of Kinoshita disclose these features as suggested by the Examiner.

More specifically, Kinoshita does not teach or suggest that the optical signal transmitting unit OSW1 includes a front-stage and rear-stage amplifier to allow a dispersion compensator to be provided therebetween, nor does Kinoshita teach or suggest that the optical signal receiving unit ORW1 includes a front-stage and rear-stage amplifier to allow a dispersion compensator to be provided therebetween. In fact, Kinoshita discloses that a dispersion compensation module DCM is located between the pre-stage optical amplifier 4-4 and the post-stage optical amplifier

4-5 of the optical post-amplifier module TWAA, and another dispersion compensation module DCM located between the pre-stage optical amplifier 6-4 and the post-stage optical amplifier 6-5 of the optical pre-amplifier module RWAA. See column 14, lines 2-20 and column 15, lines 50-60. Therefore, it is respectfully submitted that the optical post-amplifier module TWAA and the optical pre-amplifier module RWAA are both amplifiers and not a transmitter and receiver as suggested by the Examiner.

Thus, Kinoshita does not teach or suggest the features recited in claims 1 and 16 of the present application. Accordingly, Kinoshita and Delavaux, either alone or in combination, do not teach or suggest the features recited in claims 1 and 16 of the present application.

Similar to claim 1, claim 15 recites that an "optical transmitter comprises a front-stage amplifier and a rear-stage amplifier..." and a "dispersion compensator being provided between said front-stage amplifier and said rear-stage amplifier," which distinguish over the cited prior art. Claims 25 and 33 also recite a "dispersion compensator being provided between a front-stage amplifier and a rear-stage amplifier of said optical transmitter," which distinguishes over the cited prior art.

Similar to claim 16, claim 47 recites that an "optical receiver comprises a front-stage amplifier and a rear-stage amplifier..." and a "dispersion compensator being provided between said front-stage amplifier and said rear-stage amplifier," which distinguish over the cited prior art.

Claim 54 also recites a "dispersion compensator being provided between a front-stage amplifier and a rear-stage amplifier of said optical receiver," which distinguishes over the cited prior art.

Claims 2-4, claims 26-28, claims 34 and 35, and claims 59 and 60 depend from independent claims 1, 25, 33, and 15, respectively. Therefore, for at least the reasons that claims 1, 25, 33, and 15 distinguish over the cited prior art, it is respectfully submitted that claims 2-4, 26-28, 34, 35, 59 and 60 also distinguish over the cited prior art.

In view of the above, it is respectfully submitted that the rejection is overcome.

## V. CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that each of the claims patentably distinguishes over the prior art, and therefore defines allowable subject matter. A prompt and favorable reconsideration of the rejection along with an indication of allowability of all pending claims are therefore respectfully requested.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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